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A SMALL COLLECTION OF BABYLONIAN WEIGHTS.

A brief description of a small collection of objects of antiquity, believed to belong to the Babylonian system of weights, will be found to possess a certain degree of interest.

TABULAR LIST OF THE WEIGHTS AND THEIR RELATIVE VALUES.


No.	Object.	Grammes.	Grains Troy.	Denomination.
1.	Lion of lead.	569.	8,780	One Mana.
2.	Tablet of Lead.	67.45	1,041	3 Double Staters.
3.	Hematite Stone.	154.75	2,388	$\frac{20}{60}$ of Mana.
4.	Fusiform hematite stone, inscribed, in cuneiform characters, "fifteen measures."	123.33	1,902	$\frac{15}{60}$ " "
5.	Hematite stone, without mark.	14.58	235	$\frac{1}{3}$ " "
6.	Hematite Conoid, marked on the base.	8.10	125	$\frac{1}{60}$ " "
7.	Hematite Spheroid, marked on the base.	6.31	97.4	$\frac{22}{600}$ " "
8.	Duck of white chalcedony, with winged human figure in intaglio on bottom.	5.25	81	$\frac{20}{600}$ " "
9.	Hematite Spheroid, with duck cut on face.	7.98	123	$\frac{1}{60}$ " "
10.	Square lead, with design on face.	1467.	22,636	Three Mana.
11.	Square lead, with figure of elephant.	1012.	15,615	One "

Nos. 1 and 2 are of lead, and, although of Greek origin, yet, as coming from Kyzikos, they have a place here, as it is well known that the early coinage of Kyzikos was based upon the Babylonian standard. No. 1 is a square piece of lead bearing, in high relief, the figure of a lion, and under the forepaws the mark I. Its weight is 569 grammes or 8,780 grains Troy. It represents the Mana of Kyzikos, and is but little heavier than the heaviest of the lighter Mana weights (561 grs.) published by Brandis.¹ It is possible that by oxidation its present



¹ *Das Münztz, Mass und Gewichtswesen*, p. 100.


weight exceeds slightly its original weight. No. 2 is a small square lead tablet bearing the letters KYZ and TP1Σ with the club of Herakles between them. Its weight is 67.45 grammes = 1041 grains Troy. It represents three double staters, and shows the later Babylonian division by 50 instead of by 60. Dividing the No. 1 by 50, we have $\frac{58.2}{50} = 11.38$ gram., *i. e.*, 175 grains; doubling that, $11.38 \times 2 = 22.76$ gram. = 350 grains, as the double stater, three of which would weigh 1050 grains = 68.28 gram. The difference of nine grains might have been caused by wear and perforation.

No. 3 is an irregular semicylindrical hematite stone, polished on one side and perforated near the end. It bears no marks save two strokes (II) at the larger end. Its weight is 154.75 gram., *i. e.*, 2,388 grains Troy. It is the one third, or $\frac{2}{3}$, of a Mana of 7,164 grains Troy = 464.25 gram.²

No. 4 is one of special interest. It is a fusiform hematite stone, and bears, in cuneiform characters, the inscription , "fifteen measures" (or units of measure). It is slightly chipped, but, upon carefully filling out the fracture and calculating, by displacement, its original weight has been very closely ascertained. It has weighed 123.33 gram., *i. e.*, 1902 grains Troy. Taking the unit to be $\frac{1}{15}$ of the Mana, this weight represents $\frac{1}{15}$, or one fourth, of a Mana of 493.33 gram. = 7,608 grains Troy.

No. 5 is similar to No. 4 in shape, but smaller, without inscription, apparently perfect, save a slight crack, and weighs 14.58 gram. = 235 grains Troy; corresponding very closely to the Sacred Shekel, or $\frac{1}{15}$ of the Lighter Mana.

No. 6 is a small hematite conoid, perforated, and marked on the base  and . Its weight is 8.10 gram. = 125 gr. Troy, and is $\frac{1}{15}$ of a Mana.

No. 7 is a small hematite spheroid, perforated, marked on the base , which I am as yet unable to explain satisfactorily. Its weight is 6.31 gram. = 97.4 gr. Troy. It shows the secondary division of the unit, $\frac{1}{15}$ of the $\frac{1}{15}$, representing the $\frac{1}{225}$ of the Mana.

No. 8 is a pretty little white chalcedony stone duck, perforated, and having on the base the winged human figure, in making which the lapidary has evidently had reference to bringing the stone to the exact weight. It is in perfect preservation, and I think may be taken as a

² A green basalt weight in the Brit. Mus. with a trilingual inscription, described by Mr. Budge in *Proceedings of Soc. of Bib. Arch.*, June 1888, weighs 2,573 grains Troy.

standard weight. It weighs 5.25 gram. = 81 gr. Troy. It would be the $\frac{1}{120}$ of a Mana, weighing 472.50 gram. = 7,280 gr. Troy.

No. 9 is a small spheroidal perforated hematite stone, with the engraved figure of a duck or bird, and some marks which are not very plain. I am not quite sure that it is a weight, but, as it weighs very nearly 8 gram. = 123.4 gr. Troy, and represents the $\frac{1}{120}$ of the Mana, I have given it a place here.

No. 10 is a large square lead, bearing, upon the face, some design which it is difficult with certainty to determine; and, on the reverse, two dots, one larger than the other. Its weight is about 1467 gram. = 22,636 gr. Troy.

No. 11 is a square lead bearing the figure of an elephant, but without any numeral marks. Its weight is about 1,012 gram. = 15,615 gr. Troy. It thus corresponds very closely to the Mana derived from the "Talent of the King," as given by Brandis (*op. cit.*, p. 100); and the preceding one (No. 10) is so nearly three times this weight that I conclude this to be the meaning of the large and small dot upon the base. This seems to be very nearly the normal Mesopotamian Mana, and No. 10, the $\frac{1}{120}$ or $\frac{1}{120}$ of the "Talent of the King."

The above described eleven weights, although presenting the usual variations, may serve to throw some light upon the subject of the relative standards of Assyria, Babylonia, Mesopotamia, and Asia Minor, a subject by no means exhausted.

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November 15, 1888.